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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,195	03/19/2004	Hirotoshi Terada	046124-5281	6516

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EXAMINER	
PRITCHETT, JOSHUA L	

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/804,195	TERADA ET AL.	
	Examiner	Art Unit	
	Joshua L. Pritchett	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) *1-3* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/04,9/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to Election filed October 5, 2005. Claims 4-6 have been elected without traverse. Claims 7-16 have been added as requested by the applicant.

Election/Restrictions

Claims 1-3 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 5, 2005.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 4, 6, 7, 9, 10, 12, 13 and 16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 2 of copending Application No. 10/880,100. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following rationale stated infra.

Regarding claims 4, 7 and 10, Application 10/880,100 claims a first image acquisition step of acquiring an observation image of a sample through an optical system comprising an objective lens to which light from the sample is incident; an observation setting step of setting an observation location in the sample from the observation image; a lens insertion step of moving a solid immersion lens from a standby position off an optical axis from the sample to the objective lens, to an insertion position including the optical axis; a position adjustment step of acquiring an image containing reflected light form the solid immersion lens and adjusting the insertion position of the solid immersion lens relative to the objective lens, with reference to the image and a second image acquisition step of acquiring an observation image of the sample enlarged by the solid immersion lens through the solid immersion lens and the optical system (claim 1).

Regarding claims 6, 9 and 12, Application 10/880,100 claims a distance adjustment step of adjusting a distance between the objective lens and the sample (claim 2).

Regarding claim 13, Application 10/880,100 claims the current invention but lacks reference to the focal point being at the center of the sphere. It is extremely well known in the art to have a solid immersion lens with the focal point located in the center of the sphere. Official Notice is taken. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the focal point of the solid immersion lens of Application

10/880,100 located at the center of the sphere for the purpose of aligning the focal point with the solid immersion lens and the optical system to minimize light loss and image distortion.

Regarding claim 16, Application 10/880,100 claims the current invention but lacks reference to the solid immersion lens placed in closed contact with a semiconductor device. A solid immersion lens is inherently placed in close contact with the sample in a microscope. It is extremely well known in the art to have a sample be a semiconductor device. Offiicial Notice is taken. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the sample of Application 10/880,100 include a semiconductor device as is known in the art for the purpose of viewing any defects within the semiconductor device.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 5, 8 and 11 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/880,100 in view of Ichimura (US 2001/0021145).

Application 10/880,100 claims the invention as claimed but lacks the center of gravity of the reflected light image position on an optical axis of the optical system. Ichimura teaches the center of gravity of a reflected light image is positioned on an optical axis of the optical system with reference to the image containing the reflected light from the solid immersion lens (Fig. 6).It would have been obvious to one of ordinary skill in the art at have the image of Application 10/880,100 positioned as taught by Ichimura for the purpose of efficiently conveying the image from the solid immersion lens to the optical imaging device.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ichimura (US 2001/0021145).

Regarding claim 10, Ichimura discloses a position adjustment step of acquiring an image containing reflected light from a solid immersion lens (3) through an optical system to which light form a sample is incident (Fig. 6), and adjusting the position of the solid immersion lens relative to the optical system, with reference to the image (para. 0028) and an image acquisition step of acquiring an observation image of the sample enlarged by the solid immersion lens through the solid immersion lens and the optical system (Figs. 4 and 6).

Regarding claim 11, Ichimura discloses the center of gravity of a reflected light image is positioned on an optical axis of the optical system with reference to the image containing the reflected light from the solid immersion lens (Fig. 6).

Regarding claim 12, Ichimura discloses a distance adjustment step of adjusting a distance between the optical system and the sample (Fig. 4; slid motor 155).

Regarding claim 13, Ichimura discloses the solid immersion lens has a focal point at the center of the sphere (Fig. 1).

Regarding claims 14 and 15, Ichimura discloses the solid immersion lens has a radius, R, and a refractive index, n, has a focal point located at R/n below the center of the sphere (Fig. 1).

Regarding claim 16, Ichimura discloses the sample is a semiconductor device (51) and the solid immersion lens is placed in close contact with a surface of the semiconductor device (Fig. 1).

Allowable Subject Matter

Claims 4-9 are allowable over the prior art of record if the double patenting rejection is overcome.

The following is an examiner's statement of reasons for allowance: the prior art fails to teach or suggest inserting a solid immersion lens from a standby position off an optical axis from the sample to the objective lens to an insertion position including the optical axis.

The prior art teaches solid immersion lenses movable within the optical axis and normal lenses movable into the optical axis. However, the examiner does not think one of ordinary skill in the art would find it obvious to combine these teachings because of the close contact between a solid immersion lens and a sample and the potential damage to the sample associated with moving the solid immersion lens into position.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hirsch (US 2005/0220266) teaches a solid immersion lens movable perpendicular to the optical axis but lacks the solid immersion lens moving off the optical axis (Fig. 1A).

Tanabe (US 2005/0094293) teaches a solid immersion lens movable in three dimensions but lacks reference to the solid immersion lens moving off the optical axis (para. 0048).

Cozier (US 6,441,359) teaches a cantilever (11) to move a solid immersion lens parallel to the optical axis.

Corle (US 5,125,750) teaches a servo system to move a solid immersion lens but lacks reference to the solid immersion lens moving off the optical axis (col. 3 lines 53-60).

Kasono (US 6,226,238) teaches a solid immersion lens movable perpendicular to the optical axis (Fig. 2) but not off the optical axis.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP

DREW A. DUNN
SUPERVISORY PATENT EXAMINER